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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,289	07/12/2001	Steven E. Parker	064751.0312	2053

5073 7590 12/28/2004

BAKER BOTTS L.L.P.
2001 ROSS AVENUE
SUITE 600
DALLAS, TX 75201-2980

EXAMINER	
SEDIGHIAN, REZA	
ART UNIT	**PAPER NUMBER**
2633	

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/904,289	PARKER, STEVEN E.	
	Examiner	Art Unit	
	M. R. Sedighian	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 July 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 July 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/6/2002*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Reference numeral "3" in line 1 of claim 3, should change to ---1---. Claim 3 can not depend on itself. For the examination, claim 3 considered to be depend on claim 1.

2. The drawings are objected because of the following informality:

a) The reference numeral "18" is not shown in fig. 2B.

Correction is required for further informalities.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 2 and 19-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 2, it recites the limitation " the ring" in line 3 . There is insufficient antecedent basis for this limitation in the claim.

As to claim 19-27, it is not clear about "... a second central hub coupled to the second fiber optic concentrated ring and receiving digital data signals for routing to the second plurality of connection devices, the second central hub coupled to the first central hub as a signal fiber optic switching and distribution system". Which central hub is the second central hub?? Which central hub is the first?? Which ring is the second, and which ring is the first?? How the second central hub is coupled to the first central hub to form a single fiber optic switching and distribution system??

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Vinel et al. (US Patent No: 5,469,283).

Regarding claim 1, Vinel teaches a method of communicating comprising: providing at least one interconnect hub (DN, fig. 1); connecting the at least one interconnect hub (DN, fig. 1) to a plurality of audio connection devices (CPN0, CPN10, fig. 1) to form a network of audio connection devices (col. 1, lines 21-22) with the interconnect hub at the center of the network (DN, fig. 1), wherein the audio connection devices connect to each other through the at least one interconnect hub (col. 1, lines 11-22); and synchronously transmitting data between at least two of the audio connection devices through the at least one interconnect hub (col. 4, lines 25-52).

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Heidemann et al. (US Patent No: 5,517,232).

Regarding claim 1, Heidemann teaches a method of communicating comprising: providing at least one interconnect hub (ONT_i, fig. 1); connecting the at least one interconnect hub (ONT_i, fig. 1) to a plurality of audio connection devices (111, fig. 1) to form a network of audio connection devices (col. 8, lines 35-46) with the interconnect hub at the center of the

network, wherein the audio connection devices connect to each other through the at least one interconnect hub (col. 8, lines 37-41); and synchronously transmitting data between at least two of the audio connection devices through the at least one interconnect hub (col. 4, lines 15-28).

8. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuthyar et al. (US Patent No: 5,909,431).

Regarding claim 1, Kuthyar teaches a method of communicating comprising: providing at least one interconnect hub (5-1, fig. 1); connecting the at least one interconnect hub (5-1, fig. 1) to a plurality of audio connection devices (1-1 to 1-5, fig. 1) to form a network of audio connection devices (col. 3, lines 47-55, col. 4, lines 6-30) with the interconnect hub (5-1, fig. 1) at the center of the network (col. 3, lines 10-15), wherein the audio connection devices connect to each other through the at least one interconnect hub (col. 3, lines 47-57); and synchronously transmitting data between at least two of the audio connection devices through the at least one interconnect hub (col. 2, lines 36-40).

Regarding claim 3, Kuthyar further teaches the interconnect hub comprises at least one second ring (2-1, 2-2, fig. 1) connecting the audio communication devices (col. 3, lines 5-8).

9. Claim 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by McMillen et al. (US Patent No: 5,483,535).

Regarding claim 4, McMillen teaches a communication system comprising a star network (fig. 2) having a hub (8, fig. 2) located at the center of the star network (col. 5, lines 2-19), the network carrying a synchronous data stream (col. 5, lines 20-21).

Regarding claim 5, McMillen teaches the hub comprises a ring connecting a plurality of network connections (col. 5, lines 3-11).

10. Claim 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Hemmady et al. (US Patent No: 4,893,302).

Regarding claim 4, Hemmady teaches a communication system comprising a star network (fig. 2) having a hub (HUB 1, fig. 2) located at the center of the star network, the network carrying a synchronous data stream (see abstract).

Regarding claim 5, Hemmady teaches the hub comprises a ring connecting a plurality of network connections (see abstract, col. 70, lines 1-21).

11. Claim 7-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Feldman et al. (US patent No: 6,577,414).

Regarding claim 7, Feldman teaches a digital fiber optic switching and distribution system (fig. 1), comprising: a fiber optic concentrated ring (120, fig. 1) configured as a communication ring to a plurality of signal sources (180, fig. 1), a plurality of connection devices (150, fig. 1) coupled to the ring, each receiving analog signals from at least one signal source (device 150 receives analog signal from subscriber 180) and converting the analog signals into digital data signals (col. 2, lines 53-64); and a central hub (126, fig. 1) coupled to the ring and receiving the digital signals for routing to the connection devices (col. 2, lines 65-67, col. 3, lines 1-7, col. 4, lines 5-12).

Regarding claim 8, Feldman further teaches the central hub (126, fig. 1) comprises dual counter rotating fiber optic ring (col. 4, lines 11-13) for single point failure protection (col. 6, lines 1-7).

Regarding claim 9, Feldman further teaches a plurality of subloops equal in number to at least the plurality of connection devices, wherein each subloop couples to at least one the connection devices (note that there are a plurality of hubs, such as hubs 122, 124 that are connected to the path-redundant ring 120 to make a subloop, wherein each hub can be connected to its respective connection devices such as 150).

Regarding claim 10, Feldman further teaches the central hub (126, fig. 1) comprises a plurality of ports individually coupled to a subloop of the fiber optic ring (it is obvious that the central hub 126 has a plurality of ports in order to be connected to the ring fibers and for connection to the other communication devices of the system).

Regarding claims 11-12, Feldman further teaches the system further comprising a plurality of control panels (col. 9, lines 22-26) individually coupled to one of the plurality of connection devices (OEC 150, fig. 1).

12. Claim 7-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Korowitz et al. (US Patent No: 4,482,980).

Regarding claim 7, Korowitz teaches a digital fiber optic switching and distribution system (fig. 1), comprising: a fiber optic concentrated ring (28, 30, fig. 1) configured as a communication ring to a plurality of signal sources (16, 17, 18, 19, fig. 1), a plurality of connection devices (10, 11, fig. 1) coupled (20, 22, fig. 1) to the ring (28, 30, fig. 1), each

receiving analog signals from at least one signal source (50, fig. 3) and converting the analog signals into digital data signals (col. 7, lines 15-41 and 48, fig. 3); and a central hub (14, fig. 1) coupled to the ring and receiving the digital signals for routing to the connection devices (col. 2, lines 63-68, col. 3, lines 1-14).

Regarding claim 8, Korowitz further teaches the central hub (14, fig. 1) comprises dual counter rotating fiber optic ring (28, 30, fig. 1) for single point failure protection (col. 2, lines 43-62).

Regarding claim 9, Korowitz further teaches a plurality of subloops equal in number to at least the plurality of connection devices, wherein each subloop couples to at least one the connection devices (note that connection devices 10 or 11 are connected to electrical cables 20 and 22 that are comprised of a plurality of cable lines, or subloops 33, 35, and 38 that are shown in fig. 2).

Regarding claim 10, Korowitz further teaches the central hub (14, fig. 1) comprises a plurality of ports individually coupled to a subloop of the fiber optic ring (it is obvious that the central hub 14 has a plurality of ports in order to be connected to interface HCI and to the lines 21 and 23 for further connection to the ring network).

Regarding claims 11-12, Korowitz further teaches the system further comprising a plurality of control panels individually coupled to one of the plurality of connection devices (col. 2, lines 35-42 and 52, 60, fig. 3).

13. Claim 13-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Robillard et al. (US patent No: 5,706,278).

Regarding claim 13, Robillard teaches a digital fiber optic switching and distribution system (fig. 1), comprising: a fiber optic concentrated ring (10, fig. 1) configured as a communication network to a plurality of signal sources (ANALOG SENSOR ACTUATOR, fig. 1); a plurality of connection devices (18, 20, fig. 1) coupled to the fiber optic concentrated ring (10, fig. 1), each connection device (20, fig. 1) receiving analog signals (analog signal from the analog sensor actuator source) from at least one signal source (ANALOG SENSOR ACTUATOR, fig. 1) and converting the received analog signals into digital data signals (A/D CONVERTER MUX, fig. 1), each connection device (20, fig. 1) comprises a digital signal processor (DCCP, fig. 1) for selective mixing of the signals received from the at least one signal source (col. 4, lines 54-67, col. 5, line 1); and a central hub (12, fig. 1 and col. 5, line 14) coupled to the fiber ring (21, 22, 23, fig. 1) and receiving the digital signals for routing to the connection devices (col. 4, lines 50-56); and wherein the central hub comprising a bus synchronizer for synchronizing the routing of data signals through the fiber optic concentrated ring (col. 8, lines 41-61).

Regarding claim 14, Robillard further teaches the central hub further comprises dual counter rotating fiber optic rings (21, 22, 23, fig. 1) for single point failure protection (col. 6, lines 11-18).

Regarding claim 15, Robillard further teaches the ring comprises a plurality of subloops equal in number to the plurality of connection devices (note that for each connection device, such as connection devices 16, 18, 20, there are a plurality of loops, or subloops such as loops 21 or 22 or 23).

Regarding claim 16, Robillard teaches the central hub (12, fig. 1) comprises a plurality of ports individually coupled to a subloop of the fiber optic ring (it is obvious that the central hub

12 has a plurality of ports in order to be connected to the fiber ring 21 and for connection to the transceiver 26_1).

Regarding claims 17-18, Robillard further teaches a plurality of control panels (col. 4, lines 65-66 and DCCP $28_{10\text{-}12}$, fig. 1) individually coupled to one of the plurality connection devices (20, fig. 1).

14. Claim 13-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Chawki et al. (US patent No: 5,745,269).

Regarding claim 13, Chawki teaches a digital fiber optic switching and distribution system (fig. 3), comprising: a fiber optic concentrated ring (F1, F2, fig. 3) configured as a communication network to a plurality of signal sources (E3, fig. 3); a plurality of connection devices (station 1, station 2, station 3, , fig. 3) coupled to the fiber optic concentrated ring (F1, F2, fig. 3), each connection device receiving analog signals from at least one signal source and converting the received analog signals into digital data signals (col. 5, lines 11-16), each connection device comprises a digital signal processor for selective mixing of the signals received from the at least one signal source (col. 6, lines 25-26); and a central hub (T, fig. 3) coupled to the fiber ring (F1, F2, fig. 3) and receiving the digital signals for routing to the connection devices (col. 5, lines 4-16); and wherein the central hub comprising a bus synchronizer for synchronizing the routing of data signals through the fiber optic concentrated ring (col. 5, lines 54-65 and process and management G, fig. 3).

Regarding claim 14, Chawki further teaches the central hub further comprises dual counter rotating fiber optic rings (F1, F2, fig. 3) for single point failure protection (col. 2, lines 33-43).

Regarding claim 15, Chawki further teaches the ring comprises a plurality of subloops equal in number to the plurality of connection devices (note that M3 and E3 of station 3 are bi-directionally connected to each other by subloops, as it is shown in fig. 3).

Regarding claim 16, Chawki teaches the central hub (T, fig. 3) comprises a plurality of ports (the ports that are connected to central station T for connecting the central station units to fiber rings F1 and F2) individually coupled to a subloop of the fiber optic ring (for example, either loop F1 or loop F2).

Regarding claims 17-18, Chawki further teaches a plurality of control panels individually coupled to one of the plurality connection devices (for example, the electronics in processing circuit E3 of station E3).

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vinel et al. (US Patent No: 5,469,283) in view of Arimilli (US Patent No: 5,757,801).

Regarding claim 2, as it is understood in view of the above 112 problem, Vinel differs from the claimed invention in that Vinel does not teach transmitting a frame of data at a rate of 8 KHz. Arimilli teaches data can be transmitted at a rate of 8 KHz (col. 12, lines 15-20). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention that the optical data transmission system of Vinel can transmit data a rate of 8 KHz, as it is taught by Arimilli, in order to provide a high quality data signal transmission.

17. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over McMillen et al. (US Patent No: 5,483,535) in view of Arimilli (US Patent No: 5,757,801).

Regarding claim 6, McMillen differs from the claimed invention in that McMillen does not teach transmitting a frame of data at a rate of 8 KHz. Arimilli teaches the transmission of data at a rate of 8 KHz (col. 12, lines 15-20). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention the optical data transmission system of McMillen can transmit data a rate of 8 KHz, as it is taught by Arimilli, in order to provide a high quality data signal transmission.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. R. Sedighian whose telephone number is (571) 272-3034. The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. R. Sedighian

M. R. SEDIGHIAN
PRIMARY EXAMINER